Food and Agriculture Organization of the United Nations

World Agroforestry

Agroforestry and tenure

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Agroforestry and tenure

By
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CONTENTS

Acknowledgements *v*
Acronyms and abbreviations *vi*
Executive summary *vii*

1. Context **1**

2. Tenure-related challenges to agroforestry development **5**
2.1 Tenure insecurity 5
2.2 Social and gender inequities 6
2.3 Institutional issues 8
2.4 Plot size and land use 9

3. Options for improving tenure security for stronger agroforestry adoption **11**
3.1 Customary tenure and other socially legitimate tenure systems 11
3.2 Land formalization 13
3.3 Conditional tenure and long-term leases 16
3.4 Community-based land management 17

4. Recommendations for tenure policy to support agroforestry adoption **19**
4.1 Provide a legal basis for agroforestry 19
4.2 Identify local resource use and tenure contexts 19
4.3 Secure tenure, drawing on what exists 20
4.4 Promote equity, participation and justice 20
4.5 Create other incentives that lead to the adoption and sustainability of agroforestry 21

5. References **23**

Boxes

1 Agroforestry policy in India 2
2 Types of right to land, trees and their products 6
3 The FAO Legal Assessment Tool for gender-equitable land tenure 8
4 Legitimate tenure rights 11
5 Effect of customary tenure systems on decision-making in agroforestry in West Sumatra, Indonesia 12
6 When new planting approaches help to adapt customary rules: Segou district, Mali 13
7 Forest rights of native communities in Peru 15
8 Agroforestry adoption under conditional tenure in Indonesia 16

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Acronyms and abbreviations

ASEAN	Association of Southeast Asian Nations
ICRAF	World Agroforestry
LAT	Legal Assessment Tool
LHF	Leasehold forestry
NDC	Nationally Determined Contribution
PES	Payment for Ecosystem Services
REDD+	Reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries
SDG	Sustainable Development Goal
VGGT	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security

Executive summary

Agroforestry is gaining new ground in the quest for climate-smart agriculture practices, due to its ability to sequester carbon and mitigate climate change while increasing the socio-economic and environmental sustainability of rural development. Agroforestry can contribute to the achievement of a wide range of Sustainable Development Goals (SDGs) by helping to eradicate hunger, reduce poverty, support gender equity and social inclusion, provide affordable and cleaner energy, protect life on land, reverse land degradation and combat climate change. Agroforestry can also boost local carbon sequestration, contributing to the achievement of countries' Nationally Determined Contributions (NDCs).

Yet agroforestry continues to face challenges, such as unfavourable policy incentives, legal constraints, and poor coordination among sectors. In particular, many agroforestry researchers and practitioners have highlighted insecure land and resource tenure as a major obstacle to the promotion of this practice. Considerable research has established that the likelihood of farmers being able to adopt and reap benefits from agroforestry increases if they have long-term, secure tenure to a sufficiently large area of land and what grows on it. Clarifying land-use policies and regulations, and securing farmers' access to land is therefore a prerequisite if agroforestry is to be widely adopted by rural communities.

The purpose of this publication is to provide a review of the main tenure-related challenges that can affect agroforestry adoption, so as to inform policies and project implementation. These include tenure insecurity on either land or its products that undermine agroforestry adoption, as well as small plot sizes, policies limiting access to and use of the land by women and minority groups, and barriers presented by some customary regimes.

Drawing on practical case studies, the document also presents measures and approaches that could potentially drive the adoption of agroforestry. It concludes with a number of specific recommendations for formulating and implementing tenure policies that promote agroforestry:

- Provide a legal basis for agroforestry.
- Identify local resource uses and tenure contexts.
- Secure tenure by drawing on what exists.
- Create other incentives that lead to adoption and sustainability of agroforestry.
- Promote equity, participation and justice.

The document uses the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT) (FAO, 2012) as a foundation for issuing comprehensive guidance on strengthening tenure in agroforestry systems.

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1. Context

"When introducing agroforestry where ownership of land, the trees or their products is uncertain, so is the outcome, regardless if it is a farmer's own, public, or project investment."

Bruce and Fortmann, 1989

Agroforestry is the term for land-use systems and technologies in which woody perennials (such as trees, shrubs, palms or bamboos) and agricultural crops or animals are deliberately grown on the same parcel of land in some form of spatial and temporal arrangement. By integrating crop/livestock production and tree planting, this practice has the potential to diversify and increase farmers' production through the provision of food, wood, fibre and medicines, while providing environmental and social benefits, such as enhanced soil fertility, erosion control, water regulation, carbon sequestration, biodiversity and resilience to natural hazards (Mosquera-Losada *et al.*, 2012; Nair and Garrity, 2012; Catacutan *et al.*, 2017).

For this reason, agroforestry has been gaining increasing recognition in recent years as a sustainable climate-smart agriculture option (FAO, 2013, 2017a; Dinesh *et al.*, 2017) that can contribute to many of the international conventions, frameworks and targets to which growing numbers of countries are committing. Indeed, agroforestry can contribute to the achievement of a wide range of Sustainable Development Goals (SDGs)[1] (Waldron *et al.*, 2017), by helping to eradicate hunger, reduce poverty, support gender equity and social inclusion, provide affordable and cleaner energy, protect life on land, reverse land degradation and combat climate change. By increasing the tree cover on lands, agroforestry can also boost local carbon sequestration, thereby contributing to the achievement of countries' Nationally Determined Contributions (NDCs) (Rosenstock *et al.*, 2018).[2]

Despite its potential for driving sustainable rural development, agroforestry continues to face a range of policy, legal and institutional challenges that serve to disincentivize its adoption. In particular, long-term secure land and tree rights are critical for agroforestry initiatives – more so than for many other types of agricultural enterprises and practices (FAO, 2017b). This is because farmers require longer time periods to test, adapt and eventually adopt agroforestry technologies and practices, due to the often lengthy

1 The Sustainable Development Goals (SDGs) are goals adopted by the members of the United Nations General Assembly in 2015 under Resolution 70/1 of the United Nations General Assembly: 'Transforming our World: the 2030 Agenda for Sustainable Development'.

2 Nationally Determined Contributions (NDCs) are commitments made by parties of the Paris Climate Agreement to reduce national greenhouse gas emissions and adapt to the impacts of climate change.

periods required for trees to mature. Lack of long-term rights to land, absence of legal recognition of customary and other legitimate land rights, and competing tenure claims such as seasonal rights to communal grazing areas – all these factors can have the effect of inhibiting the planting, management and protection of trees. Indeed, there are few agroforestry success stories in an uncertain land tenure context (FAO, 2013a; Martial *et al.*, 2012).

Failure to clarify and secure tenure of agroforestry land, the perennials grown on the land, and the goods and services produced by agroforestry landscapes (including carbon) can lead to weak incentives for adoption, inequitable distribution of benefits, and lacklustre impacts that fail to justify investments. Overlooking how local tenure and governance systems are structured can drastically reduce the effectiveness of a policy aimed at promoting its implementation. Yet many agroforestry policies retain a mostly technical focus (see Box 1).

Box 1
Agroforestry policy in India

The Government of India promulgated a national agroforestry policy in 2014, followed by operational guidelines, with the mandate of agroforestry assigned to the Ministry of Agriculture and Farmers' Welfare, and special instructions to the Department of Forestry. The policy states that smallholders' farming enterprises should be conceived of as a portfolio of activities rather than as a "fixed one type of cropping system". The policy defines agroforestry, identifies economic and environmental benefits and purposes of agroforestry, and articulates action points for agroforestry promotion. The operation guidelines, however, focus mainly on the technical approach to implementation, including establishing nurseries, planting material and eligible species, capacity building, and cost-sharing between the state and farmers. To increase the chances of success, it would be important to complement the existing guidelines with some additional indications on the enabling conditions required for promoting agroforestry, including secure tenure.

Source: Government of India, 2014

Agroforestry has the potential to be implemented through a wide range of projects. For example, Payment for Ecosystem (or Environmental) Services (PES) programmes can incentivize farmers or communities to refrain from felling trees, especially those on forest land. In Uganda, when farmers were paid the value of the timber (USD 28 per hectare per year) for not felling timber trees, deforestation rates were reduced by up to 9 percent (Jayachandran *et al.*, 2017). However, lack of legal recognition of land and natural resource rights has remained a limiting factor for the development of PES schemes, as is the case for REDD+ programming (Mahanty, 2013). Addressing tenure ambiguities is crucial to the success of PES programmes, so as to ensure that incentives

and payments are properly aligned, and that conflicts do not erupt over perceptions of unfairness in the distribution of compensation. Again, initiatives that seek to clarify tenure must involve all land and resource rights holders in the community, and seek common agreement on what is equitable and fair.

More recently, large-scale foreign investments have presented new challenges and insecurity for smallholder farmers, particularly those under customary tenure regimes. Even where land rights are relatively clear and secure in statutory law, rights to grow trees on land may be held by the state. In other instances, forest regulations may inhibit the growing of trees on farms by restricting their harvesting, the sale of tree products, or cultivation of certain tree species. In addition, forest services may control the management and harvesting of trees through permits, which may be difficult to obtain. Complex taxation policies can also restrict agroforestry development.

The purpose of this publication is to provide a review of the main tenure-related challenges that can affect agroforestry adoption, and offer specific recommendations for securing tenure for agroforestry by drawing on practical cases. It is informed by the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security, which provide comprehensive guidance on strengthening governance of tenure to land and natural resources.

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2. Tenure-related challenges to agroforestry development

2.1 TENURE INSECURITY

The importance of long-term land tenure security for investing in sustainable agricultural practices, such as soil conservation, agroforestry and perennial farming systems, has been highlighted in many studies from around the world (Place, 2009; FAO, 2013a; Persha *et al.*, 2015; Mugure *et al.*, 2013). Research on the influence of tenure on agricultural and forestry systems has largely demonstrated the importance of secure tenure on the adoption and productivity of these systems, and their capacity to generate a range of other benefits. A recent FAO review (FAO, 2017a, p. 64) showed that tenure security was among the top three factors influencing agroforestry adoption. In particular, tenure that is secure and long-lasting can be especially important in incentivizing investments that are often costly and have a long time horizon for generating a return, as can be the case with tree crops (FAO, 2013a; Persha *et al.*, 2015).

There are many reasons that tenure may be insecure, or be perceived to be so. Tenure may be insecure due to conflicting statutory and customary laws that grant these rights. It may also be the result of informality of rights, boundary and other conflicting claims, or the failure of state or customary institutions to protect those rights. For example, as of 2012, in most developing countries, up to 70 percent of land was not covered by a land administration system (UN-Habitat/GLTN and IIRR, 2012). Other major causes of tenure insecurity can be attributed to the growing trend of large-scale land acquisitions by investors, sometimes referred to as 'land grabbing' (Cotula *et al.*, 2009; Poffenberger, 2009). The issue of land grabbing is particularly sensitive in regions where much of the rural population depends on land for their livelihoods and food security, and where a lack of legal evidence of land rights has led to forced evictions, with little or no compensation (Bose *et al.*, 2017). In this regard, the FAO Governance of Tenure Technical Guide *Safeguarding land tenure rights in the context of agricultural investment* – developed to assist countries in applying the VGGT – can support government authorities involved in the promotion, approval and monitoring of agricultural investments to safeguard tenure rights, prevent degradation and avoid disputes over tenure rights (FAO, 2015).

Providing tenure security in the context of agroforestry requires consideration of an array of different rights to resources, including tenure rights to land where agroforestry is situated, to woody perennials, to crops and animals, and to the products generated by all that is grown and raised on the land (see Box 2). Understanding and recognizing local tenure arrangements, including resource use and management, is critical to that end.

Box 2
Types of right to land, trees and their products

- **Right to own, or use land**
- **Right to own, transfer rights and inherit trees**
- **Right to plant trees**
- **Right to use trees for subsistence and commercial purposes**
  - ◊ to harvest (e.g. fruits, nuts, pods)
  - ◊ to use the standing tree (e.g. beekeeping)
  - ◊ to cut part of a living tree (e.g. leaves, branches, roots, bark)
- **Right to dispose of trees**
  - ◊ to uproot or cut down a tree
  - ◊ to lend the use of a tree to someone else
  - ◊ to lease, mortgage, or pledge a tree
  - ◊ to give away or sell a tree, either together with, or separate from, the land.

Source: Adapted from Boffa, 2000

2.2 SOCIAL AND GENDER INEQUITIES

Land and tree tenure often reflect power relations between different groups and governance authorities (Bruce and Fortmann, 1989). In particular, national and local leaders frequently use control over land and trees as mechanisms to assert authority over the poor and socially marginalized groups (Sikor and Lund, 2009). Where state supervision is weak, local elites may exert control over land and resources. Furthermore, land and tree tenure of indigenous peoples remains insecure, despite being recognized by many countries in statutory laws. This is in part because indigenous people's rights continue to be overlooked in the formulation of land-use policies (Munshifwa, 2018; Pact, 2015). Where indigenous rights are recognized, they may not always be formalized or registered, allowing governments to grant concessions, or others seeking land to lay claims on indigenous territories. Migrants, such as those supported by the state under transmigration programmes, can sometimes lay competing claims on indigenous and other lands (Fearnside, 1997). At times, the complexities of the local context can make the clarification of rights very difficult. For example, in the peat forests of Jambi, Indonesia, customary lands of local communities were never formalized, and the State granted logging concessions between the 1970s and the end of 1990s. Following the end of the logging concession era, the Government revoked permits and encouraged migration into the area to establish coconut and other plantations. This resulted in conflict between local communities and the migrants backed by the State (Galudra *et al.*, 2014). Likewise, the rural poor and the landless often rely on village commons or marginal lands for cultivation, livestock grazing and the collection of other natural resources. These may be liable to reallocation for resettlement, afforestation or plantation projects, involving little or no consultation with the users of such lands.

Women, in particular, can suffer from lack of secure access to land and resources, despite their crucial role in supporting rural livelihoods. In fact, women are less likely to own land and, when they do, their plots are smaller (World Bank, 2011). Within communities, the absence of women from public spaces and from decision-making positions can result in their interests being overshadowed by those of men. Within households, unequal rights and power relations between women and men can leave women's interests under-represented in decision-making. While there is ample evidence of communities and households with secure tenure rights making increased investments in land, some studies focus particularly on investments made by women. For example, an impact assessment of pilot land tenure regularization in Rwanda (Ali, Deininger and Goldstein, 2014) found that women-headed households whose lands were regularized were more likely to undertake long-term investments such as maintaining bunds and terraces, and checking dams for soil conservation, after regularization than prior to it. Other studies have shown that women's relative lack of knowledge of their land rights is a significant constraint to the making of long-term investments (Quisumbing and Kumar, 2014). A study conducted in Ghana highlighted how tenure insecurity of poor and vulnerable women and migrant farmers led to the adoption of short-term land management practices, compromising the sustainability of land management in the longer term (Antwi-Agyei *et al.*, 2015). In addition to the use of land itself, the management and use of trees and parts of trees can also be associated with gender roles and taboos (Kiptot, 2015). In some customary systems, such as in Papua New Guinea,[3] women

3 https://unfccc.int/climate-action/momentum-for-change/activity-database/engaging-women-and-girls-in-tree-planting-to-attain-customary-land-ownership

cannot inherit land. Elsewhere, they may be restricted from planting certain trees, such as ficus in Uganda (Mukasa *et al.*, 2016). This can affect the adoption of agroforestry by women, and skew the benefits of agroforestry in favour of men. It is important to note that in matrilineal societies, men rather than women may face such tenure insecurities, discouraging them from making long-term investments in land (Hansen and Luckert, 2005). These findings highlight the need to promote agroforestry programmes, including policies and practices, through the 'gender lens' (FAO, 2017; RRI, 2017).

Agroforestry programmes are best designed with a good understanding of local land and resource use and tenure arrangements, so as to ensure that the poor and vulnerable are not alienated, and that on the contrary, the initiatives benefit such groups. Furthermore, by considering the needs of both women and men, appropriate agroforestry systems and technologies can be developed (Kiptot, 2015). When new crop species or technologies are introduced, awareness of the gender implications of those choices on the potential for men and women to access any benefits of the proposed programme should be duly taken into account (Le *et al.*, 2019). The Legal Assessment Tool (LAT) developed by FAO can help to formulate gender-equitable policies and laws on land tenure (See box 3).

Box 3

The FAO Legal Assessment Tool for gender-equitable land tenure

The Legal Assessment Tool was developed by FAO's Gender and Land Rights Database for the purpose of providing prompt, targeted and effective policy advice and capacity development towards gender-equitable land tenure. In particular, it is designed to (1) highlight strengths, weaknesses and opportunities for gender-equitable land tenure in the legal framework; (2) identify the sources of gender differentiation in legislation; and (3) help to determine the appropriate course of action for reform. The tool includes around 30 legal indicators, and helps to guide development practitioners when targeting key areas of work. It allows policy-makers to better visualize the legal intricacies surrounding men and women's access to land, the progress made, and existing positive elements in the legal framework. It also helps them to identify areas where women are at a disadvantage, and where legal reform is needed.

Source: FAO, 2016

2.3 INSTITUTIONAL ISSUES

In many cases, there tends to be a lack of clarity on how to structure agroforestry governance, and on the assignment of related responsibilities among different ministries and agencies, which are typically grouped into categories of agriculture, forestry, environment and rural development (Catacutan *et al.*, 2017). As a result, land-use policies administered by ministries of agriculture may restrict tree planting on agricultural land. Meanwhile, forest policies administered by ministries or departments of forestry

may restrict the harvest of commercial timber species (Namirembe *et al.*, 2015). If not properly managed, this may represent a disincentive to the adoption and implementation of agroforestry practices. To address this issue, institutional reform and related arrangements should reorganize departmental responsibilities and improve coordination between sectors. This can be done by creating consultative bodies, and a strategy for fostering collaboration among staff of different governmental departments and ministries (FAO, 2013).

2.4 PLOT SIZE AND LAND USE

In general, farmers tend to adopt agroforestry closer to homesteads, and on plots that are comparatively larger in size, while using less complex systems on small and scattered plots that are further away (Pattanayak *et al.*, 2003; Simelton *et al.*, 2016). In addition, smallholders generally prioritize livelihoods and stable incomes over conservation and environmental objectives (Garcia *et al.*, 2009; Pacheco *et al.*, 2012). This means that smallholders will adopt agroforestry if they have sufficiently large and economically viable plots that enable tree and crop production. Often, inheritance patterns lead to land fragmentation when larger plots are split (Neef and Heidhues, 1994), rendering them too small to support agroforestry. To overcome this problem, smallholders sometimes opt to swap plots with neighbouring owners, or to consolidate plots with others. Such an approach can help to overcome the small size-related constraints. However, this approach only works where conditions allow, such as when there is clarity of land rights and boundaries, absence of disputes, etc. Working collectively through cooperatives and associations can be an alternative way to address the challenges related to small plots faced by farmers.

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3. Options for improving tenure security for stronger agroforestry adoption

3.1 CUSTOMARY TENURE AND OTHER SOCIALLY LEGITIMATE TENURE SYSTEMS

Customary tenure and other socially legitimate tenure systems are often highly flexible and adaptive to changes in the biophysical, social and economic environment, and can be well placed to provide security of tenure and encourage agroforestry systems. They also enjoy a degree of legitimacy among local communities that may far exceed that of statutory laws (Aggarwal and Elbow, 2006). Despite the potential advantages of customary tenure systems in supporting agroforestry, certain norms upheld by select customary regimes can sometimes present barriers to their adoption. For example, planting trees can serve as a means to claim land in many customary systems in sub-Saharan Africa (Bruce and Fortmann, 1989; Knight, 2010), leading some farmers to refrain from planting trees, so as to avoid conflict with customary institutions or with their neighbours (Levasseur *et al.*, 2008). In other cases, customary rules may designate certain trees for use by all community members, while other trees may be privately owned or restricted to the exclusive use of a limited number of households (see Box 4). In Côte d'Ivoire, Ghana and Togo, growers typically have exclusive rights to the trees that they plant, while trees that are naturally regenerated belong to the community, discouraging individual farmers from investing in agroforestry systems based on farmer managed natural regeneration. Similarly, rules that permit multiple uses and users of a resource may discourage farmers from planting trees or facilitating natural regeneration, mainly because they will not reap the full benefits of their investment.

Box 4
Legitimate tenure rights

The internationally endorsed VGGT provide important guidance on strengthening governance of tenure. In particular, they encourage states, the private sector and others to give recognition to legitimate rights – not only rights that are legally recognized (legally legitimate), but also those that have broad social acceptance, even without legal recognition (socially legitimate). The latter may include customary rights and tenure systems, and embody sets of rules and norms governing the rights and responsibilities of a particular community of people over their natural resources.

Source: FAO, 2012

Box 5
Effect of customary tenure systems on decision-making in agroforestry in West Sumatra, Indonesia

Issue: In communal tenure arrangements in West Sumatra, rights to trees and tree products vary depending on local rules, species, uses and functions, and from village to village. In some villages, the bark of cinnamon trees belongs to the grower, while in others, the bark is shared between the grower and community members. For cutting trees, permission is usually required from one or two leaders, depending on the village, and if trees are for personal use or selling. However, in one village, farmers do not need permission to cut down trees that they have planted themselves. Since individual use of timber usually requires approval from community leaders, farmers tend to plant non-timber trees, for example, rubber, cocoa and clove, and avoid agroforestry systems that include timber trees.

Recommendation: Any resource use system and the benefits it generates need to be designed to balance individual and communal rights and interests.

Source: Martial *et al.*, 2012

Customary tenure systems are also not always equitable, and often determine who participates, and with what benefits. As previously noted, in the case of some customary tenure systems, where land is traditionally passed on to male heirs, women are not permitted to plant certain trees, since the act of doing so asserts ownership of the land on which the trees are planted (Mukasa *et al.*, 2016). Women and girls may be restricted from gathering specific tree products on communal lands (Adedayo, *et al.*, 2010). Similar restrictions may apply to other groups within the community.

Advocacy for equitable rights and sharing of benefits does not mean that customary tenure systems should be eliminated. Instead, there is a need to identify ways to work with them. The VGGT provide important guidance (provisions 9.7 and 9.2) with regards to the protection of rights of the vulnerable within customary systems. The guidelines recommend that when developing policies and laws related to tenure systems of indigenous and other communities with customary tenure systems, states should encourage all members or representatives of affected communities to be consulted, including vulnerable and marginalized members. They also recommend that such policies include provisions to support equitable access to and/or control of forests and forest resources for all members of the community, including women (such as management rights, and appropriate inheritance/transfer rights in cases of divorce, separation, abandonment, widowhood, or in situations of polygamy). In many parts of West Africa, shea is considered a women's tree, a factor that has helped to generate small-scale business development for women, specifically targeting these products (Elias 2015; Sanou, 2019).

Policies and projects can facilitate customary systems in adapting to a rapidly changing context and needs. Box 6 provides a good illustration of this in Mali, where resistance to planting live fences was overcome by sharing tree products with neighbours. Likewise,

women's contribution to food security can be used to defend their primary rights to harvest certain nutritive tree products (Neef and Heidhues, 1994).

It is important to note that statutory tenure systems may also suffer from inequities arising from unfair privileges granted to certain groups. In addition, they may promote the unsustainable management of land and resources through unclear, contradictory or poor polices, or through poor implementation of those policies. For example, Senegal has a land tenure regime that recognizes land rights created by demonstrated use and development, a policy blamed for deforestation (Wily, 2011). When identifying opportunities for agroforestry systems, it is therefore important to assess how both customary and statutory systems may affect their adoption and sustainability. Given the varied strengths and limitations of both, some combination of the customary and statutory systems can in many instances yield positive results (Aggarwal and Elbow, 2006).

Box 6
When new planting approaches help to adapt customary rules: Segou district, Mali

Issue: Improved live hedgerows were promoted by World Agroforestry (ICRAF) and the local *Institut d'Economie Rurale* to make more productive use of trees, while protecting crops from animals. The benefits were generally appreciated by the farmers. However, uptake of hedgerow planting was slow, partly because under customary rules, planting trees established rights to land. Planting a live hedge around field borders was therefore perceived as a threat by farmers cultivating adjacent plots. Village authorities also disapproved of the hedgerows, because they hampered communal land use during fallow periods. Moreover, when women, who traditionally lacked land rights, wanted to make use of trees, the customary system was further challenged.

Solution: To mitigate the conflict, some farmers offered to share their tree products with their neighbours, while others planted live fences in the middle of their fields. Some families also approved of women planting the hedgerows, since their use contributed to household welfare. The project could have been successful from the start, had customary tenure been taken into account as part of inclusive community consultation.

Source: Levasseur *et al.*, 2008

3.2 LAND FORMALIZATION

Countries are increasingly examining ways to afford customary tenure systems recognition in statutory law (Knight, 2010). Formalization of land and resource rights is typically undertaken by reforming legal instruments to establish who is eligible to claim rights to particular resources, and how those rights may be obtained. A review of six sub-Saharan African countries by Knox *et al.* (undated) concluded that approaches can vary widely with regards to granting legal recognition to customary property rights and institutions, in terms of whether: the land is vested in the state or customary

communities; major customary tenure rules are codified or not in statutory law; or authority for administering customary land is given to traditional authorities or to state established entities, such as land boards. Care is needed in determining the right approach to formalization in any country context. It is also important that efforts be made to ensure that mandates and responsibilities assigned to the various government institutions do not overlap, especially with regards to administering and recognizing land rights inside, as opposed to outside forests.[4]

Formal systems typically provide a means for right holders to have their rights documented (such as in the form of titles or certificates) and registered, enabling them to be subsequently enforced by the state. Land titling may be most appropriate when competition for land and resources is high, and when customary tenure systems either do not exist, or are no longer able to provide sufficient tenure security to customary claimants. In such instances, tenure formalization can yield important benefits. For example, a study conducted by Blackman *et al.* (2017) showed that a titling campaign carried out in the Peruvian Amazon involving more than 1 200 indigenous communities led to a significant reduction in illegal logging and improvements in forest conservation within just two years.

However, attempts to increase the tenure security of one group of people may (unintentionally) threaten the rights of others. For example, formalization of land rights in the name of male heads of household (as is often the case) may exacerbate landlessness and intra-household disparities (Giovarelli *et al.*, 2013). Likewise, Benjaminsen (2002) documents the Malian experience of formalizing peri-urban land rights in the cotton zone, where well informed and influential urban speculators and bureaucrats ended up benefiting from formalization, rather than farmers using land under customary tenure. Box 7 illustrates the Peruvian case, where the Government established policies and regulations on tenure without adequate consultation with indigenous peoples. This led to civil unrest and violent protests by the indigenous communities in defence of their rights.

It is therefore important to ensure that any titling initiative does not increase or cement gender and social inequities with regards to rights to land (RRI, 2017). In particular, it is critical that any efforts to formalize tenure carefully reviews any pre-existing rights to land and associated natural resources, including informal ones. They should also consider what rights are to be formalized and how (ownership versus leases, with appropriate duration), and ensure recognition of the rights of any pre-existing claimants that are considered socially legitimate at local level. Specific consideration should be given to the poor, women, the landless, and other vulnerable communities and households.

Often, the means of strengthening tenure security is equated with titling land or issuance of other types of land certificates by the state, especially to individuals and households. However, the need for, or even the wisdom of such measures has been widely debated. It may depend on whether well-functioning and legitimate customary tenure systems that provide long-term tenure security to local communities already exist (Lawry *et al.*, 2014). In fact, well-structured customary rights arrangements can ensure levels of

4 https://news.mongabay.com/2017/11/indonesian-president-recognizes-land-rights-of-nine-more-indigenous-groups/

Box 7
Forest rights of native communities in Peru

Peru has recognized the collective claims to land of indigenous people since the early 1970s. However, the Forest and Wildlife Law, which was enacted around the same time, declared forest resources as state property, barring indigenous communities from owning them. Instead, communities could only gain titles for agricultural lands, and had to enter into usufruct contracts in order to harvest resources from their native forests. Between the 1980s and 2000, formalization of indigenous claims was eclipsed by the emphasis given to individual land titling. In 2006, the Law of Promotion of Private Investment in Reforestation and Agroforestry was modified, and two decrees issued to allow the Government to grant foreign investors rights to 'deforested' land, a classification that could be given to any forests not populated by commercial timber species, as well as land under fallow in indigenous territories. This series of assaults on native land rights sparked violent protests by indigenous communities in 2006 and 2009, which led to a revocation of the decrees and the establishment of the Law of Prior Consultation of Indigenous or Original Peoples in 2011. The new law required consultation of indigenous peoples on any administrative and legislative action that could affect their rights. This consultation process was applied to a revision of the Forest and Wildlife Law, resulting in the reinstatement of native communities' exclusive rights to use forest resources within their territories, whether on titled or contracted land.

Source: Monterroso *et al.*, 2017.

tenure security that are comparable with those obtained through formalization. Where customary rights do not provide adequate security, tenure may be secured through well formulated formalization plans or other means, such as by providing long-term leases on land, conditional tenure (see Section 3.3), or tree rights.

Finally, it is critical to bear in mind that rights formalization may not be sufficient to deliver positive outcomes, and that they should be supplemented with other support (Payne *et al.*, 2009; Sjaastad and Cousins, 2008; Bose *et al.*, 2017). This is true not just for agroforestry, but for other formalization initiatives seeking to address environmental degradation, poverty and inequity. To this end, the VGGT (FAO, 2012a) call on states not only to recognize and protect legitimate rights, but also to facilitate the enjoyment of those rights (provisions 3.1.3, 6.3). This may entail raising awareness of rights, and the removal of unnecessary legal and procedural barriers for the enjoyment of rights (provision 11.3), such as complex administrative procedures for obtaining legal recognition of rights, multitude of permits for resource use, complex processes for obtaining permits, or unaffordable fees associated with rights allocation/registration. Further, the VGGT state that governments should provide support to all rights holders (provision 15.8). This may be in the form of technical advice, access to loans and credits, access to seedlings or insurance plans, facilitating participation of the poor in markets by making them transparent and publicizing market information, or promoting production

and investment models that encourage partnerships with local tenure right holders. In particular, the FAO technical guide on *Governing tenure rights to commons* supports countries in achieving legal recognition and protection of tenure rights to commons and community-based governance structures. Meanwhile, *Creating a system to record tenure rights and first registration* provides governments with general advice on ways to introduce a new system to record rights, and on recording rights for the first time (FAO, 2017c; FAO, 2017d).

3.3 CONDITIONAL TENURE AND LONG-TERM LEASES

When formalization and land titling are not a feasible option, states can promote agroforestry through the implementation of conditional leases or tenure agreements, where farmers are offered long-term, secure rights to harvest specific tree products in exchange for the application of good natural resource management practices, including agroforestry. Box 8 describes the application of conditional tenure in Indonesia.

Box 8
Agroforestry adoption under conditional tenure in Indonesia

When people are embroiled in crisis and face both personal and tenure insecurities, unsustainable land-use practices and land degradation often ensue. In Sumberjaya, Indonesia, tenure agreements between the state and migrant farmer groups were set up as conditional land-use permits for 5 to 25 years. The conditions involved coffee management systems that contributed to ecosystem services, such as watershed protection. The authors argue that conditional tenure agreements can resolve conflicts over migrant smallholder farming in places where the government owns major forest tracts. Such conflicts are common in the uplands of Asia.

Source: Suyanto *et al.*, 2008

Conditional land rights may be possible through contracts between the state and communities, and land users such as landless families. In some instances, temporary use rights may be replaced by ownership or other forms of more secure rights, provided that degradation is discontinued, and sustainable land-use management practices are adopted and applied over a period of time.

In the Philippines, the Government launched the Community-Based Forest Management Programme in 1995. The programme promoted sustainable forest management by providing communities with long-term conditional leases on public lands. Renewable agreements have been signed between the Government and local communities for a period of 25 years. These allow communities to plant trees and harvest timber from plantations and secondary growth forest, subject to existing regulations on timber harvesting, on condition that the area is protected and managed according to the principles of sustained-yield forest management. Communities are required to use part of the income to protect, renew and improve the forest, as well as to invest in alternative sources of livelihood (Lasco *et al.*, 2010).

3.4 COMMUNITY-BASED LAND MANAGEMENT

Community-based land management, a participatory process that establishes and implements a common set of resource management rules acceptable to all stakeholders, can be used to support agroforestry. This process can provide an opportunity to highlight existing customary tenure rules and consider their suitability for supporting agroforestry in a way that distributes the benefits equitably. In the short term, there may be limited scope to overhaul existing rules that serve vested interests, but communities may be open to adjusting these over time, if it is seen that more equitable benefit sharing encourages greater participation.

Communities may also benefit from governmental or non-governmental organizations acting as facilitators, and linking them with other actors who shape landscape-level outcomes. For example, unequal power relationships between farmers and herders may result in farmers fencing off portions of communal lands for their own exclusive use, thereby denying access to herders. Community-based land management can bring together farmers and herders to identify solutions that protect crops and tree growth, while also allowing grazing. Similar initiatives can help to meet the needs of a wider set of stakeholders. For example, in Indonesia, the Philippines and Viet Nam, stakeholder dialogues have led to the development of co-investment schemes between ecosystem services providers (farmers' groups) and beneficiaries (hydropower stations, private companies and local authorities), which promote environmental best practices on both community-managed land and land allocated to households (Leimona *et al.*, 2015).[5]

5 https://asia.ifad.org/web/smart-tree-invest/resources

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4. Recommendations for tenure policy to support agroforestry adoption

Agroforestry has the potential to make agricultural and food systems more sustainable by simultaneously addressing social, livelihoods and environmental challenges, including climate change. However, as discussed above, certain conditions and incentives must be in place to facilitate its adoption. The following is a series of recommendations on key issues to be taken into account, so as to ensure the effectiveness of tenure-related measures aimed at promoting stronger uptake of agroforestry practices.

4.1 PROVIDE A LEGAL BASIS FOR AGROFORESTRY

1. Seek clarity on the legal and institutional status of agroforestry. Identify statutory rights for land, trees and tree products, and the nature and status of customary systems governing natural resources.
2. Support the development of national agroforestry policies, laws and regulations that incorporate the Voluntary Guidelines for the Responsible Governance of Tenure of Land, Fisheries (FAO, 2012). Take into account existing customary systems, and support provision of long-term, secure rights to agroforestry products, trees and land. The FAO Governance of Tenure technical guide *Responsible governance of tenure and the law* offers advice on how to use the law to promote responsible governance of tenure, particularly focusing on features of legal frameworks, lawmaking processes, and legal assistance for vulnerable groups.[6]
3. Frame land and natural resource policies, so that they can accommodate locally adapted approaches to strengthening tenure security and promoting agroforestry. Seek to provide legitimacy to customary institutions where these continue to function well. If customary and statutory tenure systems are at odds, aim to harmonize them.
4. Assign one government body to be in charge of agroforestry, and ensure that it receives an adequate budget to achieve policy aims.

4.2 IDENTIFY LOCAL RESOURCE USE AND TENURE CONTEXTS

1. At local level, identify customary rights and rules for natural resource management, and land-use and tenure arrangements, in order to identify which areas may be most suitable for agroforestry. This is being further supported by international bodies such as the Association of Southeast Asian Nations (ASEAN), which endorsed the

6 For further information, see www.fao.org/3/a-i5449e.pdf

ASEAN Guidelines for Agroforestry Development (Catacutan *et al.*, 2018). The document underscores the importance of understanding the contexts of tenure rights, ensuring stakeholder engagement and local participation to avoid conflicts between stakeholders, and ensuring that agroforestry interventions do not adversely affect any of them.

2. Identify existing and potential tenure conflicts, and determine whether trusted conflict resolution institutions exist, and are capable of efficiently addressing the most common types of tenure disputes that arise.

4.3 SECURE TENURE, DRAWING ON WHAT EXISTS

1. Ensure that those who use land, trees and tree products have adequate security of tenure, including tenure of sufficient duration to reap the benefits of their investments.
2. Consider whether customary systems are sufficiently legitimate and robust to support agroforestry systems, or if formalization of land and resource tenure may be needed.
3. In the event of formalization, be aware of the flexibility of customary systems to avoid cementing rules being practised at a specific time (Aggarwal and Elbow, 2006). This can compromise the adaptability of customary tenure arrangements to local ecological, social and economic contexts. Consider documenting land and tree tenures using geographic referencing and certification, which can serve as legitimate evidentiary material.
4. Where customary tenure rules act as disincentives to promoting agroforestry, investigate the rationales for these rules, and, if appropriate, work with communities to adjust these rules, perhaps on an experimental basis.
5. While there is no single solution for strengthening tenure security for agroforestry, approaches work best when they draw on locally accepted norms, priorities and practices – whether those are supported by custom, statute or a combination of both – and when stakeholders' claims are understood. Consider various options for providing tenure security, such as conditional long-term leases.

4.4 PROMOTE EQUITY, PARTICIPATION AND JUSTICE

1. Ensure that securing tenure for agroforestry is a participatory process that involves all stakeholders, including women and the landless, who may be afforded rights to trees and tree products in contexts where it may be difficult for them to secure land rights.
2. In formalizing tenure, avoid reinforcing gender and social inequalities by incorporating discriminatory customary laws into statutory law, without identifying ways to adapt these to support social justice and equality.
3. Avoid reducing or eliminating rights wherever possible, as this may exacerbate poverty, livelihood insecurity and local resource conflicts (Aggarwal and Elbow, 2006). Where such changes in rights are necessary, assess current rights of the various primary and secondary users of land and resources, and provide meaningful compensation.

4.5 CREATE OTHER INCENTIVES THAT LEAD TO THE ADOPTION AND SUSTAINABILITY OF AGROFORESTRY

1. Plan for and support agroforestry systems, rather than simply planting trees or particular tree species, to ensure that livelihood needs are met and biodiversity is promoted.
2. Consider whether it may be appropriate and viable to promote sustainable commercialization of different agroforestry products.
3. Provide government staff involved in agroforestry and local communities with information and training, not only on the technical aspects of agroforestry, but also on the importance of clear, secure and equitable tenure systems to support this practice.
4. Make agroforestry actions visible in national 'green' accounting, reforestation and mitigation programmes, and ensure that agroforestry is included in NDC and SDG targets.

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